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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/663,726

09/17/2003

Yuichi Kubo

740107-173

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25570 7590 08/10/2007  
ROBERTS, MLOTKOWSKI & HOBBS  
P. O. BOX 10064  
MCLEAN, VA 22102-8064

EXAMINER

HEINRICH, SAMUEL M

ART UNIT

PAPER NUMBER

1725

MAIL DATE

DELIVERY MODE

08/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/663,726

Applicant(s)

KUBO ET AL.

Examiner

Samuel M. Heinrich

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/19/07; 4/06/07 *1 sheet*
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Request***

Applicant's request, see Request for Supplemental Office Action, filed May 14, 2007, with respect to a failure to address the major points of argument presented by Applicant have been fully considered and are persuasive. A Supplemental Office Action is provided comprising a full response to Applicant's position.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP402172238A in view of JP2000068235A and in view of USPN 3,638,597 to Brown and USPN 5,953,951 to Fujimoto et al. JP402172238A shows and describes a

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die bonding apparatus including an expand tape, vacuum collet, and a pushup pin.

JP2000068235A shows (e.g., Fig 6) and describes an expanding tape cutting stage.

Both Brown (Figure 22) and Fujimoto et al (Figures 1-6 and 11) show a chamfered edge of a rim which protects a malleable material during stretching. The use of a chamfered edge on a die bonder comprising an expanding tape cutting stage would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because it is well known to avoid sharp edges with stretched workpieces because of the possibility of rupture.

Claims 1-9, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of JP2000068235A. AAPA describes (Specification, Description of the Related Art) conventional die bonder, conventional dicing blade, and known laser dicing. JP2000068235A shows (e.g., Figures 5 and 6) an expandable dicing stage; Figure 6 shows an expansion stage detail showing mating rings 17 and 18 and a cross-hatched expandable tape therebetween, and further showing a circular arc-shaped bend to tape 18. The clamp 17 must be chamfered, rounded, or otherwise shaped in order to produce this tape shape, otherwise thinning or breaking of the tape would occur and no thinning or breaking are shown. The use of the well known expansion stage in a conventional die bond system would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the stage prevents damage of pellets with adjacent pellets during handling.

Claims 11-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of JP2000068235A as applied to claims 1-9, 16, 18, and 19 above and further in view of JP402172238A.

JP402172238A shows (Figures 1 and 2) well known expand tape, vacuum collet, and push pin, and the use thereof with the well known expanding stage of JP2000068235A would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the vacuum collet and push pin provide efficient die handling.

### ***Response to Arguments***

Applicant's arguments filed February 01, 2007 have been fully considered but they are not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that "the two Japanese references are directed to entirely different apparatus." This argument is not convincing. Both JP402172238A and JP2000068235A pertain to wafer processing apparatus and to handling of diced wafer pellets.

Applicant argues that neither USPN 3,638,597 to Brown nor USPN 5,953,951 to Fujimoto et al are relevant and are not properly combinable with the rejection of JP402172238A in view of JP2000068235A. This argument is not convincing. Both

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JP402172238A and JP2000068235A describe stretching a tape and, particularly, JP2000068235A shows the ring structure which provides stretch. Both Brown and Fujimoto et al describe tooling which interacts with a malleable work material during stretching. Chamfering helps control uniform distortion of stretchable material and helps to prevent unwanted distortion which can damage stretchable material. The use of chamfered tooling edges which interact with a stretchable tape would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because chamfers are old and well known for protection of material which interacts with a sharp corner and because the chamfer would provide more reliable tape stretch.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

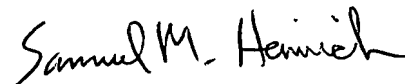
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Johnson can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Samuel M Heinrich  
Primary Examiner  
Art Unit 1725

SMH